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A North Greenland Butterfly.

The recent polar expedition of Captain Hall, in the U.S. Steamer Polaris, brought home from Polaris Bay, Lat. 81° 38′ N., two specimens, male and female, of *Brenthis polaris* (Boisd.)—the most northern butterfly known.

The male is badly rubbed, but evidently differs, as the fresher female does, from Labrador specimens, in being of a much duller color upon both surfaces of the wings. The upper surface of the male, in Labrador specimens, is bright orange fulvous, that of the females a little duller; while in these Greenland examples the color is a dull sordid fulvous, almost changing to ashen in the fore-wings of the female. The dark markings of the upper surface in both sexes are not so dark in the Greenland as in the Labrador specimens, and, with some exceptions, they are also slightly narrower; the transverse markings in the cell of the fore wings in both sexes are noticeably slenderer, but the mesial band of the fore wings, besides being less irregularly zigzag, is broadened in the posterior half of the wing, at least in the female, and its border more obscured by scattered griseous scales; the mesial band of the hind wing is, however, narrower than in Labrador specimens, and there is therefore a greater extent of fulvous surface, but that is greatly obscured by griseous scales; the roundish spots of the extra-mesial row are rather larger than usual in the female.

Beneath, similar differences occur. The general color is duller than on the upper surface, though not to so great an extent, and the contrasts of the dark and bright markings are not so noticeable as in Labrador specimens. On the fore wings, the lower portion of the mesial band is broader, as on the upper surface, and the extra-mesial spots are also larger, especially

below, and in the female; the sub-marginal blackish spots are much less conspicuous than the extra-mesial series, while in Labrador specimens they are usually the same. On the hind wings, the differences are more marked, especially in the female, where the markings are, as it were, blended; this effect is mostly produced by the white spots surmounting the extra-mesial series of black markings, which, in Labrador specimens, are almost wholly confined to the basal side of the spots, while in the Greenland individuals, not only do the white markings extend closer to the mesial band, but follow down the sides of the spots and extend along the nervures, narrowing as they go, almost to the outer border; thus the saffron which usually follows these spots on the outer side, in Labrador specimens, is almost wholly interchanged for whitish in the Greenland forms.

The principal differences, then, between these far northern representatives of the species and the typical Labrador forms consist in a dulling or fading of the colors and of the colorational contrasts, a partial suffusion of the markings, and a more or less conspicuous infuscation of the wings by a sprinkling of sordid or griseous scales. Expanse of wings, \$\delta\$ 40 mm., \$\varphi\$ 43 mm.

This butterfly was first described by Boisduval, as coming from "Cap Nord;" afterwards it is quoted by him from the same place and from the Norwegian Alps; and again, in his Icones, from "la partie la plus septentrionale de la Laponie, au Cap Nord, et au Labrador." No other author, as far as I have noticed, records it from Europe. Standinger, in his catalogue, gives as localities: "Labr.; ? Lap. s.?; ? Sib. s. or," showing that he knows it only from Labrador. Möschler gives it only from Labrador. Schilde does not record it in his exhaustive catalogue of N. Finland Lepidoptera, and it is not given as an inhabitant of Greenland, either by Standinger in his list of Greenland Lepidoptera, or by Schiödte in Rinks's Greenland. Dr. Packard says that in Labrador it is found from Square Island, i. e. from the northernmost point of the Straits of Belle Isle, northward. It is probably an exclusively American insect, confined to the coldest regions, or "barren lands," and excluding the southern peninsula of Greenland. Boisdaval says he received his specimens from Sommer and Eschscholtz, the

former of whom, at least, was in the habit of receiving specimens from Labrador, and by some accident, the earlier localities may have been given erroneously.

Samuel H. Scudder.

BIBLIOGRAPHICAL RECORD.

Authors and Societies are requested to forward their works to the Editor at the earliest date possible. We ask our readers to inform us of the publication especially of those works which are not generally consulted by entomologists.

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* 146. The Report of the [United States] Commissioner of Agriculture for the year 1872, contains the following, and Nos. 147, 148.

- a. Value of the Division of Entomology of the Department of Agriculture (by Fred'k Watts), p. 4-5. b. Lessened ravages of the chinch-bug, the Hessian-fly and the Colorado potato-beetle (by J. R. Dodge), p. 11-12. c. Injury done to horses by bots and buffalo-gnats, p. 32, to eattle by the "heel-fly," p. 35, and to sheep by seab and "grub in the head," p. 37 (by J. R. Dodge). d. Connection of insects with the Black-knot of Plum and Cherry trees (by Prof. C. H. Peek), p. 175-176. e. Colleges which give instruction in entomology, pp. 358, 361, 368, 369, 374, 382. f. Notice of Adair's Progressive Bee Culture (1872) [Bees do not possess reasoning powers; nature and function of the "queen"], p. 401-402; of Adair's Annals of Bee Culture for 1872, p. 402. g. False remedy for the Hessianfly exposed (by Prof. S. I. Smith), p. 448. h. An invasion of asparagusbeetles checked by hens; of orange-colored wheat-aphides checked by a red-bug (by J. S. Gould), p. 448. i. The large podded milk weed (in Utah) destructive to bees (by H. E. Norton), p. 451. j. Dr. Hull's new curculio-catcher described, p. 451. k. No insects prey on young osageorange plants (by II. J. Dunlap), p. 474. l. Hibernation of honey-bees (by Mrs. E. S. Tupper), p. 479-480. m. Grape-roots injured by a Phylloxera (?) (hy G. W. Campbell), p. 504.
- * 147. Townend Glover. Report of the Entomologist and Curator of the Museum. p. 112–138, fig. 1–26.
- a. Anarsia pruinella (fig. 1) killing the tips of peach-twigs; remedies. b. Araeocerus coffeae (fig. 3) destroying peaches. c. Mycetobia persicae (fig. 4) feeding on the exudations from the burrows of Aegeria exitiosa in peach-trees. d. Larvæ of Sciara sp. (fig. 5) forming snake-like masses; habits of other species of Sciara. e. Romalea microptera (fig. 6-7) injuring gardens and orchards; remedies. f. Amphicerus bicaudatus (fig. 8) injuring grape-vines, fruit-trees and Carya alba; remedies. g. Ravages of Anomis xylina and Heliothis armigera upon the cotton, and of Prodenia autumnalis upon corn, grass and peas. h. Present distribution of Dory-